

REMARKS

In accordance with the foregoing, claims 3, 4, 9, 11 and 13 have been amended, claims 10, 12, 14 and 16 have been cancelled without prejudice or disclaimer and claims 17-21 have been added, thus, claims 1-9, 11, 13, 15 and 17-21 are pending and under consideration. No new matter is included in this amendment.

Allowable Subject Matter:

At page 5 of the Office Action, the Examiner indicates that claims 3-4 and 7-8 are objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims.

The 35 U.S.C. §103(a) Rejection:

At page 5 of the Office Action, claims 1, 2, 5, 6, and 9-16 are rejected under 35 U.S.C. §103(a) as being unpatentable over Applicants' admitted prior art (FIGS. 1-2 and page 1 to page 4 [of the specification]) [in view of] Japanese 2002-63724 (JP 2002-63724).

This rejection is respectfully traversed. Regarding claims 1 and 5, the Examiner asserts that JP 2002-63724 discloses an optical pickup device having a blade including a first blade portion (lens holder 14) [in] which the lens 1 is mounted and a second blade portion (supporting member 15) [in] which the coils are mounted. Supporting members 15 of JP 2002-63724 are wires which support the lens holder 14 in a similar manner as the support wires 16 of FIG. 1 of the present application support the entire blade 12 and are not "a second blade portion in which the driving coils are mounted," as recited in claim 1 or a "second blade portion having driving coils mounted thereon," as recited in claim 5.

A person of ordinary skill in the art at the time the invention was made would not have been motivated to combine the references because the problem to be solved in JP 2002-63724 relates to electrical conductivity of the lens holder 14 causing a problem with current flows to the tracking coil and the focusing coil due to inclusion of a conductive fiber in the lens holder 14 and not to solving a heat dissipation problem. Further, there is no disclosure that the lens holder 14 is formed of "a first blade portion" and "a second blade portion" as recited in claim 1. In JP 2002-63724, the problem of JP 2002-63724 is solved by providing an insulating coating for the support members (wires) 14.

The problem to be solved in the present invention is to remove heat from the tracking and focusing coils in a manner so that the heat does not flow to the objective lens. In JP 2002-

63724 support members 14 do not appear to be located so as to contribute to removing heat from the focusing coils or to conduct heat away from the objective lens. In the present invention, the blade 30 is provided in two portions, a portion 31 supporting the objective lens 33 and having a low thermal conductivity and a portion 32 having a high thermal conductivity which conducts heat away from the objective lens. Such an arrangement contributes to solving the heat dissipation problem of the admitted prior art.

Regarding claims 2 and 6, the Examiner asserts that it would have been obvious to a person of ordinary skill in the art to have made the first blade portion from a reinforced plastics material and the second blade portion from a magnesium alloy material. First, JP 2002-63724 does not mention making the blade in two portions of different materials. Second, JP 2002-63724 does not mention making anything of magnesium alloy. The Examiner's conclusion of such is pure conjecture and does not satisfy the Examiner's burden of making a prima facie case of obviousness.

Regarding claim 15, the Examiner asserts that "one of ordinary skill in the art would have been motivated to make the first and second blade portions of the optical pickup of Applicants' admitted prior art as modified by JP 2002-63724 with the reinforced plastics material [which] is a vectra material in which a glass fiber of about 30% has been added through lab routine experimentation and reasonable optimization to prevent the heat/thermal [radiation] of coils from the second blade portion (by insulating coating to the lens."

However, applicants are not claiming making the first and second blade portions of the reinforced plastics material. Claim 15 cannot be read in a vacuum without including the features of claim 13 from which claim 15 depends. As recited in claim 13, it is the first blade portion which is made from the reinforced plastics material and not the first and second blade portions. Further, neither the Applicants admitted prior art nor JP 2002-63724 teaches making the first blade portion from reinforced plastic material having glass fiber. JP 2002-63724 discloses that the lens holder 14 is a conductive resin material containing a carbon fiber filler. Glass is generally known to be non-conductive. Thus, JP 2002-63724 teaches away from using a non-conductive fiber as a filler for the lens holder 14.

Claims 3 and 4 have been amended to improve form and not to overcome the prior art.

Claims 10, 12, 14 and 16 have been cancelled without prejudice or disclaimer, thus the rejection of claims 10, 12, 14 and 16 is moot.

The prior art does not teach "a hybrid-type blade movable with respect to the holder and integrally combining a first blade portion which supports and thermally insulates the objective lens and a second blade portion which supports and radiates heat from the driving coils," as recited in claim 9; that "the first blade portion has a lower thermal conductivity coefficient than that of the second blade portion," as recited in claim 11; that "the first blade portion is made of a reinforced plastic material and the second blade portion is made of metal," as recited in claim 13; or that "the reinforced plastic material is a vectra material in which a glass fiber of about 30% has been added," as recited in claim 15.

New Claims 17-21:

The prior art does not teach that "the second blade portion is made of a magnesium alloy," as recited in claim 17; that "the second blade portion comprises a stepped protrusion and the first blade portion is combined to the second blade portion by enclosing the stepped protrusion within the first blade portion," as recited in claim 18; or that "the first and second blade portions are combined by molding the first blade portion onto the second blade portion," as recited in claim 19.

Further, the prior art does not teach that "the second blade portion comprises a protrusion having a cross hole and the first blade portion is combined to the second blade portion by engaging the first blade portion in the cross hole," as recited in claim 20, or that "the first and second blade portions are combined by molding a portion of the first blade portion into the cross hole," as recited in claim 21.

Conclusion:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

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